

REMARKS/ARGUMENTS

Reconsideration of this application and entry of the foregoing amendments are respectfully requested.

Non-elected claims 1, 2, 11-21 and 23-25 have been cancelled without prejudice to the filing of a divisional application covering same. Claim 22 has also been cancelled without prejudice.

On page 11 of the Action, the Examiner rejects claims 5-10 under 35 USC 112, second paragraph, as allegedly being indefinite. This rejection is addressed first since the response provided has relevance to the art-based rejections which are considered in turn below.

Claim 5 is drawn to a method of enhancing the ability of a cell to degrade a particle. The method comprises introducing into the cell a nucleic acid sequence encoding an Fc receptor comprising an L-T-L sequence in a cytoplasmic domain thereof. The claim requires that the Fc receptor comprise a γ chain cytoplasmic domain modified to comprise at least one L-T-L peptide.

In rejecting the claims as indefinite, the Examiner questions "why said cytoplasmic domain would have to be modified since it inherently possesses one L-T-L motif". In fact, the required γ chain cytoplasmic domain does not inherently possess an L-T-L motif. It possesses an L-T-L motif only if modified to do so, as in the case of the instant invention.

To illustrate this point, Applicants submit herewith a schematic diagram of human Fc receptors from Paul's "Fundamental Immunology" textbook. It will be clear from the diagram that Fc γ RII does not contain a γ chain whereas Fc γ RI, Fc γ RIIA, Fc ϵ RI and Fc α R do contain γ chains.¹

The present invention results, at least in part, from Applicants' demonstrations that the L-T-L motif in the cytoplasmic domain of Fc γ RIIA mediates lysosome fusion and that Fc γ RIIA-mediated phagocytosis and lysosomal trafficking are composed of two distinct steps mediated by individual signaling motifs.

Applicants conducted studies with a receptor that does not contain an L-T-L motif. That is, the γ chain of various Fc receptors, such as Fc γ RI and Fc γ RIIA, was utilized. Upon mutation of the γ chain to contain an L-T-L motif, targeting internalized particles to lysosomes was significantly enhanced (see Figure 5 of the subject application). This study demonstrates that lysosome targeting ability can be transferred to other receptors by translocating the L-T-L motif.

The Examiner is urged to reconsider claim 5 in view of the above clarifying comments. It is believed that having done so, the Examiner will find withdrawal of the rejection to be in order.

Claims 5-10 and 22 stand rejected as allegedly representing obviousness-type double patenting over claims 1-9, 14, 15 and 17 of USP 5,776,910 in view of Downey et

¹ The Examiner is urged to note the comment at the top of the right column of page 66 of the Paul text provided regarding the confusion surrounding the nomenclature (particularly as it relates to the use of " γ ").

al. Withdrawal of the rejection is submitted to be in order in view of the cancellation of claim 22 and comments that follow.

Claim 5 requires an Fc receptor comprising a γ chain cytoplasmic domain modified to include at least one L-T-L.

The claims of the cited patent make no mention of an L-T-L sequence, and nothing in the cited patent claims teaches or would have been suggestive of L-T-L sequences in the environments of the instant claims. The teachings of Downey et al in no way alter this fact.

The Examiner comments that the L-T-L motif is normally present in the cytoplasmic domain of Fc γ RIIA. The instant claims, however, require a γ chain cytoplasmic domain not present in Fc γ RIIA and, as indicated above, the γ chain does not naturally include any L-T-L motif. Accordingly, withdrawal of the rejection is clearly in order and same is requested.

Claims 5-10 and 22 stand rejected as allegedly representing obviousness-type double patenting over claims 1-9, 14, 15 and 17 of USP 6,068,983 in view of Downey et al. Withdrawal of the rejection is in order in view of the cancellation of claim 22 and for the reasons that follow.

Again, claim 5 requires an Fc receptor comprising a γ chain cytoplasmic domain modified to include at least one L-T-L.

The claims of the cited patent make no mention of an L-T-L sequence, and nothing in the cited patent claims teaches or would have been suggestive of L-T-L

sequences in the environments of the instant claims. The teachings of Downey et al in no way alter this fact.

The Examiner again comments that the L-T-L motif is normally present in the cytoplasmic domain of Fc γ RIIA. The Examiner is again reminded that the instant claims require a γ chain cytoplasmic domain not present in Fc γ RIIA. As indicated above, the γ chain does not naturally include any L-T-L motif. Accordingly, withdrawal of the rejection is requested.

Claims 5 and 7-10 stand rejected under 35 USC 102(b) as allegedly being anticipated by Downey et al. The rejection is traversed.

As the Examiner notes, Downey et al relates to Fc γ RIIA. Downey et al neither teaches, nor would it have suggested, modified receptors of the type recited in claim 5. That is, Downey et al does not teach modifying a γ chain cytoplasmic domain (which does not naturally include a L-T-L motif) to include an L-T-L motif. Accordingly, reconsideration is requested.

Claims 5-8 and 10 stand rejected under 35 USC 102(b) as allegedly being anticipated by Schreiber et al ('910). The rejection is traversed.

Schreiber et al is silent as regards an L-T-L sequence and in no way teaches, inherently or explicitly, modified receptors of the type recited in the instant claims. That is, Schreiber et al does not teach modifying a γ chain cytoplasmic domain so as to include an L-T-L motif. Accordingly, reconsideration is requested.

SCHREIBER et al
Appl. No. 09/989,298
July 27, 2004

Claims 5-8 and 10 stand rejected under 35 USC 102(e) as allegedly being anticipated by Schreiber et al ('983). The rejection is traversed.

The reference says nothing of L-T-L sequences and cannot be viewed as teaching modification of a γ chain cytoplasmic domain so as to include an L-T-L motif as required by the instant claims. Accordingly, reconsideration is requested.

This application is submitted to be in condition for allowance and a Notice to that effect is requested.

Respectfully submitted,

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